

REMARKS

The Official Action mailed October 4, 2002 has been received and its contents carefully noted. Filed concurrently herewith is a *Request for One Month Extension of Time*, which extends the shortened statutory period for response to February 4, 2003. Accordingly, Applicant respectfully submits that this response is being timely filed.

Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on June 21, 2001; August 16, 2001, and March 7, 2002. A further *Notification of Related Application* is submitted herewith and careful review and consideration of this information is requested.

Claims 1-9 are pending in the present application. Applicant notes with appreciation the allowance of claim 1-5. Claim 8 has been canceled, independent claim 6 has been amended and new claims 10-16 have been added to recite additional protection to which Applicant is entitled. Independent claim 1 has been amended to correct an obvious typographical error and similar amendments have been made to the specification. Claims 1-7 and 9-16 are now pending in the present application, of which claims 1, 6, and 11 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance.

Claims 6-8 are rejected as anticipated by Ohnuma et al. Claim 8 has been canceled herewith and independent claim 6 has been amended. Support for the amendments to claim 6 can be found on at least page 18, lines 19-21.

It is well established that "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). It is respectfully submitted that Ohnuma fails to disclose each and every limitation of claim 6 as amended herewith and that claim 6 cannot therefore be anticipated by Ohnuma. Favorable reconsideration is requested.

Claim 9, which is rejected as obvious based on Ohnuma, and claim 7 depend from independent claim 6 and is believed to be allowable for the same reasons as noted above. Favorable reconsideration of the outstanding rejection of these claims is also requested.

Finally, claim 1 and the specification have been amended to correct a typographical error wherein the legend "C" was included following the degree symbol ("°"). The use of C in this manner is customary to indicate degrees centigrade, however the numerical value used in claim 1 and the specification is not a temperature, but rather an angle measurement. No new matter is added by these amendments.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please amend the specification as follows:

Page 11, last full paragraph:

The main constitution of the present invention is that the island-like insulating film shapes 10301 and 10201 for the surface parallel with a surface 10203 of the crystalline semiconductor thin film 10206 are polygons having n ($n > 20$) vertexes and also a polygon having m ($m > 8$) vertexes, in which the interior angle is equal to or larger than $180^\circ[\text{C}]$, of these vertexes.

Page 17, fourth full paragraph continuing onto page 18:

Then, there is considered a cross sectional shape 10208 which is obtained when the above-mentioned island-like structure is cut off by a surface 10202 parallel with a surface 10203 of the poly-Si film. The main structure of the present invention is that the cross sectional shape is the polygon having n ($n > 20$) vertexes and also is the polygon having m ($m > 8$) vertexes, in which the interior angle is equal to or larger than $180^\circ[\text{C}]$, of these vertexes. In embodiment 1, the cross sectional shape having the island-like shape is made the shape as shown in Fig. 2B by making reference to the Koch curve. The Koch curve is the famous graphic form in the fractal geometry.

IN THE CLAIMS:

Please cancel claim 8 and amend claims 1, 6 and 9 as follows:

1. (Amended) A method of manufacturing a semiconductor device, comprising:

the process of forming a semiconductor thin film having the amorphous structure containing silicon as the main component;

the step of adding metal to said semiconductor thin film having the amorphous structure;

the process of reforming said semiconductor thin film having the amorphous structure into a crystalline semiconductor thin film containing silicon as the main component by a first heat treatment;

the process of forming an island-like insulating film;

the process of adding a nonmetal element or ion of the nonmetal element to said crystalline semiconductor thin film with said island-like insulating film as a mask to form a region in which the nonmetal element or the ions of the nonmetal element has(have) been added to said crystalline semiconductor thin film; and

the process of subjecting said crystalline semiconductor thin film to a second heat treatment to getter said metal to the region to which said nonmetal element or the ions of said nonmetal element has(have) been added,

wherein the shape of said island-like insulating film for the surface parallel with the surface of said crystalline semiconductor thin film is a polygon having n ($n > 20$) vertexes, and also is a polygon having m ($m > 8$) vertexes, in each of which the interior angle is equal to or higher than 180° [C].

6. (Amended) A method of manufacturing a semiconductor device, comprising:

[the process of] forming a semiconductor thin film having [the] an amorphous structure [containing] and comprising silicon [as the main component];

[the step of] adding metal to said semiconductor thin film having the amorphous structure;

[the process of] reforming said semiconductor thin film having the amorphous structure into [the] a crystalline semiconductor thin film [containing] and comprising silicon [as the main component] by a first heat treatment;

[the process of] forming [an island-like insulating film] a mask over said crystalline semiconductor thin film;

[the process of] adding argon [a nonmetal element] or argon ions [of the nonmetal element] to a region of said crystalline semiconductor thin film in accordance with said [island-like insulating film as a] mask [to form a region in which the nonmetal element or the ions of the nonmetal element has (have) been added to said crystalline semiconductor thin film]; and

[the process of] subjecting said crystalline semiconductor thin film to a second heat treatment to getter said metal [for] to the region to which [said nonmetal element] the argon or the argon ions [of said nonmetal element] has (have) been added.

9. (Amended) A method of manufacturing a semiconductor device according to claim [8] 6, wherein said argon or the argon ions is added to said crystalline semiconductor thin film at the acceleration voltage of 90 keV with a dose of $2 \times 10^{15} / \text{cm}^2$.